Idaho National Engineering and Environmental Laboratory

Technology Highlight:

JOB REQUIREMENTS CHECKLIST

Problem Description:

Industry today must face an ever increasingly complex world of government alphabet soup of regulations (OSHA, CAA, TSCA, FIFRA, ADA, on and on). The bottom line for business profits can quickly be wiped out when judgements are levied against the company for noncompliance with an obscure code. For the craftsperson performing the work, it is even more difficult to ensure they do not make mistakes that could seriously affect their health. Some work areas are so complicated that a single event could cost employee lives. Let us not forget protecting the local community and the environment. Have you ever had conflicting recommendations from your environmental, safety, and health engineers?

With a large workforce located at several facilities miles apart, some of these facilities are the size of a small town, coordination of work planning activities was at times extremely difficult. This resulted in varying levels of environmental, safety, and health personnel involvement. There were significant differences in the methods used for hazard identification and evaluation by maintenance job planners. The current process and requirements for obtaining professional environmental, safety, and health review of planned work did not always protect the workers. Instances were noted during assessments where similar jobs with similar hazards had been controlled by different work package instructions and methods.

At a nuclear facility there are many more governmental regulations to follow along with the myriad of common industry compliance issues. These regulations require interpretation into company policy. These policies must be implemented as standard work practices. The workforce must be trained to follow procedures. Often enough management did not ensure continuity and flow down of requirements and policy to provide for standardization of work planning processes.

Implementing management systems to ensure absolute compliance with all governmental regulations can very costly. It is not cost effective to mandate nuclear safety control practices on routine facility support activities. An application of a graded approach to determine the level and scope of work planning and hazard review commensurate with the hazard(s) is necessary for business efficiency. Job planners need an effective tools to assist with making all these complex decisions.

Solution Description:

The INEEL has developed technology for hazard evaluation and work planning called the Job Requirements Checklist (JRC). The JRC is an expert based system

available as a tool on a browser platform for job planners. This JRC tool simplifies and streamlines maintenance work planning by using a graded approach to standardize planning and review practices. This tool assists the job planner in evaluating hazards and determining the required rigor for planning work. It consists of a series of questions for determining the input, planning, review, and approval of a maintenance task, including required permits and other hazard mitigation requirements. Logic trees also keep planners from answering non-applicable questions. The JRC logic and questions were developed by INEEL and Department of Energy experts and are based upon review checklists and processes already used by the functional support organizations.

The output of the JRC is a report in HTML format. The JRC report can be electronically retrieved to allow review by environmental, safety, and health personnel and others as well. It reduces required reviews for simple, low-risk tasks while specifying team review and approval for complex, high-risk tasks.

This system also provides easy accessibility and compatibility to database information. This feature is significant because the system can utilize existing database information in the form of help screens to provide access to company electronic procedures and forms, other internal homepages with information necessary for planning work, and even Internet access to regulatory agencies for the latest information.

System security is maintained by standard network server protocols. The JRC does have a password access feature that can be turned on easily by the system administrator.

Opportunity:

This technology can be applied to solve maintenance work hazard identification and mitigation planning problems for any complex petrol-chemical, nuclear, waste management, construction, manufacturing, and other related industries required to ensure the safety and health of their employees and the protection of the neighboring community and environment. The number of perspective user would well exceed 100,000. This technology could easily be migrated into a commercially viable and valuable product.

SYSTEM STAGE:

Release 1 Production August 1996
Release 2 Production October 1997
Release 3 Production with a release date of May 1998
Release 4 Development conversion to JAVA December 1998

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